National Institute of Environmental Health Sciences

Positive association between ambient temperature and salmonellosis notifications in New Zealand, 1965-2006

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Abstract:

Objective: To investigate the temporal relationship between the monthly count of salmonellosis notifications and the monthly average temperature in New Zealand during the period 1965-2006 Methods: A negative binomial regression model was used to analyse monthly average ambient temperature and salmonellosis notifications in New Zealand between 1965 and 2006 Results: A 1 C increase in monthly average ambient temperature was associated with a 15% increase in salmonellosis notifications within the same month (IRR 115, 95% CI 1 07 - 1 24) Conclusion: The positive association found in this study between temperature and salmonellosis notifications in New Zealand is consistent with the results of studies conducted in other countries New Zealand is projected to experience an increase in temperature due to climate change Therefore, all other things being equal, climate change could increase salmonellosis notifications in New Zealand Implications: This association between temperature and salmonellosis should be considered when developing public health plans and climate change adaptation policies Strategically, existing food safety programs to prevent salmonellosis could be intensified during warmer periods As the association was strongest within the same month, focusing on improving food handling and storage during this time period may assist in climate change adaptation in New Zealand

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Quality, Precipitation, Temperature

Extreme Weather Event: Drought, Flooding

Food/Water Quality: Pathogen

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Salmonellosis

Medical Community Engagement:

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

Other Vulnerable Population: Immunocompromised

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Long-Term (>50 years)